UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,201	01/30/2004	Steven Michael Miller	RSW920030226US1	6041

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EXAMINER
PARK, JEONG S

ART UNIT	PAPER NUMBER
2154	

NOTIFICATION DATE	DELIVERY MODE
08/25/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/768,201	MILLER ET AL.
	Examiner	Art Unit	
	JEONG S. PARK	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _21 May 2008_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-7,9-19,21-31 and 33-36_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-7,9-19,21-31 and 33-36_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _30 January 2004_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to communications filed May 21, 2008.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 25-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

    Claim 25 is drawn towards a computer program product in a computer readable medium including computer program code. The computer readable medium defined in the specification is not in one of the statutory categories. The specification provides no explicit and deliberate definition of the computer readable medium.

    Claims 26-34, which are dependent on claim 25 do not add any explicit and deliberate definition of the computer readable medium to the claim and thus are rejected for the same.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 4-7, 9-19, 21-31 and 33-36 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Larkin et al. (hereinafter Larkin)(U.S. Pub. No. 2004/0064428

A1) in view of Moore et al. (hereinafter Moore)(U.S. Pub. No. 2004/0122926 A1).

Regarding claims 1, 13 and 25, Larkin teaches as follows:

A method for dynamically selecting functionally equivalent Web services through

a single autonomic proxy (equivalent to aggregation and review engine 110 in figure 1,

see, e.g., page 2, paragraph [0028])(a method and system for collecting and reviewing

data related to Web services receives service criteria from a service requester, selects

candidate services that match the service criteria, invokes the selected candidate

services, and aggregates results provided by the candidate services, see, e.g., abstract)

comprising:

receiving a client request (service requester 108 in figure 1) to locate a Web

service at the autonomic proxy (aggregation and review engine 110 in figure 1,

hereinafter engine)(see, e.g., page 2, paragraph [0029], lines 1-2);

querying a policy discovery mechanism (equivalent to service registries or UDDI

130 in figure 1, see, e.g., page 2, paragraph [0031] and [0032]) based on the client

request (see, e.g., page 2, paragraph [0029], lines 3-8); and

locating multiple Web services candidates (equivalent to one or more service

providers 160 in figure 1) to service the client request, wherein each Web service

candidate is functionally equivalent to the other Web service candidates (invocation of

services from one or more service providers, see, e.g., page 2, paragraph [0029], lines

3-8).

Larkin teaches all limitations of claim except for determining a Web service

candidate based on the Web service candidate business policy.

Moore teaches as follows:

A system and method for automating the selection of a Web service based on

reputation information (interpreted as applicant's business policy)(see, e.g., page 1,

paragraph [0008]);

the client provides contract requirements and reputation requirements, such as

with the query. The search engine crawls the contract data to determine which Web

services meet the basic operational requirements of the client, and crawls the reputation

data to determine which of those contract-meeting Web services have the best

reputations (see, e.g., page 1, paragraph [0009]);

selecting candidate services (step 220 in figure 2) and invoking (equivalent to

sending a message) candidate services (step 230 in figure 2)(see, e.g., page 3,

paragraphs [0042] and [0043] respectively);

selecting a Web service (selected resource 306 in figure 3) from a group of Web

service candidates (list of corresponding resources 304 in figure 3)(selection

mechanism 302 in figure 3 selects a resource from a list and narrow the list to a

selected resource based on reputation data 308, see, e.g., page 4, paragraph [0034]);

and

the Web services search engine (406 in figure 4) performs tasks to confirm the

availability of the selected Web server (the Web services search engine performs a

number of task to communicate with the top-ranked Web service servers to establish

that they are still available to provide the requested service and to communicate with

the auditor to confirm that the reputation data for each top-ranked Web service server is

still correct, see, e.g., page 7, paragraph [0053]).

Therefore, it would have been obvious for one of ordinary skill in the art at the

time of the invention to combine Larkin to include determining a Web service among

multiple available Web services based on reputation information as taught by Moore in

order to effectively select a Web service corresponding to the client's exact

requirements.

It would have been also obvious for one of ordinary skill in the art at the time of

the invention to modify Larkin to include the Web service search engine for confirming

the availability of the selected Web service servers as taught by Moore in order to select

a Web service provider which is actually available in real-time when the decision made

based on the reputation information.

Regarding claims 4, 16 and 28, Larkin teaches as follows:

Querying the policy discovery mechanism (registries, UDDI 130 in figure 1)

includes obtaining a WSDL Web service interface description (service definition) for the

requested Web service (the candidate selection module 170 provides the directory

queries to conduct searches within the registries (UDDI 130) and provide a service list

172 to the dispatch module 180 and the service list comprises service definition object

which defines the interface to the service providers, see, e.g., page 3, paragraph

[0036]).

Regarding claims 5, 17 and 29, Larkin teaches as follows:

Querying the policy discovery mechanism includes locating a wsdlSpec tModel

(defined in the applicant's specification page 16 line 28 to page 17, line 2 as the

technical specifications required to interact with the Web service endpoint in based on

the WSDL Web service interface description for the requested Web service)(the service

definition 140 in figure 1 contains detailed information necessary to exchange

information electronically between a service requestor and a service provider, see, e.g.,

page 3, paragraph [0033]. The service registries 130 contain service descriptions that

describe the functionality of available Web services along with general information such

as Web service names, locations, and service types, see, e.g., e.g., page 3, paragraph

[0031]).

Regarding claims 6, 7, 18, 19, 30 and 31, Larkin teaches all the limitations of

claim as explained above per claim 1 except for determining based on the business

criteria of the Web service candidate.

Moore teaches as follows:

A system and method for automating the selection of a Web service based on

reputation information (interpreted as applicant's business policy) comprises a

technically-oriented and business-oriented behavioral attributes (see, e.g., page 1,

paragraph [0008], lines 1-6);

the business-oriented behavioral attributes (equivalent to applicant's business

criteria) includes cost data (see, e.g., page 1, paragraph [0008], lines 9-16); and

the client provides contract requirements and reputation requirements, such as

with the query. The search engine crawls the contract data to determine which Web

services meet the basic operational requirements of the client, and crawls the reputation

data to determine which of those contract-meeting Web services have the best

reputations (see, e.g., page 1, paragraph [0009]).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to combine Larkin to include determining a Web service based on reputation

information specified with cost data as taught by Moore in order to effectively select a

Web service among multiple available Web services corresponding to the client's exact

requirements.

Regarding claims 9-11, 21-23 and 33-35, Larkin teaches as follows:

Receiving and validating service criteria (equivalent to applicant's metadata)

received from the service requester (see, e.g., page 3, paragraph [0041]).

Moore teaches as follows:

A system and method for automating the selection of a Web service based on

reputation information (interpreted as applicant's business policy) comprises a

technically-oriented and business-oriented behavioral attributes (see, e.g., page 1,

paragraph [0008], lines 1-6); and

the technically-oriented behavioral attributes includes Web service

responsiveness, Web service latency and Web service uptime (see, e.g., page 1,

paragraph [0008], lines 6-9).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Larkin to include response time information as the service

requester's criteria as taught by Moore in order to effectively select a Web service corresponding to the client's response time related requirement.

Regarding claims 12, 24 and 36, Moore teaches as follows:

A system and method for automating the selection of a Web service based on reputation information (interpreted as applicant's business policy) comprises a technically-oriented and business-oriented behavioral attributes (see, e.g., page 1, paragraph [0008]).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Moore to include the well-known Web Service Policy Framework as the reputation information.

Regarding claims 14 and 26, Larkin teaches as follows:

The policy discovery mechanism is UDDI (equivalent to service registries or UDDI 130 in figure 1, see, e.g., page 2, paragraph [0031] and [0032]).

Regarding claims 15 and 27, Larkin teaches as follows:

The Web service is described using WSDL (equivalent to service definition or WSDL source 140 in figure 1)(the service definition contains detailed information of Web service, see, e.g., page 3, paragraph [0033] and [0034]).

6.   Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larkin et al. (hereinafter Larkin)(U.S. Pub. No. 2004/0064428 A1) in view of Moore et al. (hereinafter Moore)(U.S. Pub. No. 2004/0122926 A1), and further in view of Zang et al. (hereinafter Zang)(U.S. Pub. No. 2004/0220910 A1).

Larkin in view of Moore teach all the limitation as presented above except for

measuring the response times of each Web service and selecting one Web service

based on the measured response time.

Zang teaches as follows:

A system and method for capturing a plurality of business requirements using a

Business Process Outsourcing Language (BPOL), an XML representation for

expressing business process flow rules, preferences, business rules and event-action

mappings as well as service links, to automate the process of generating business

processes for use with Web services. BPOL is used to dynamically construct a search

script for an advanced Web services discovery engine to find Web services from both

UDDI registries and Web services Inspection Language (WSIL) documents and then

create a qualified service list. Then a service selection problem is mapped into a

solution space [0,1] for use by an optimization algorithm that performs second level

service selection of the best set of services based on the requirements (see, e.g.,

abstract);

the QoS parameters of Web services are used to measure the quality of the Web

services clusters for business process composition. Typically, the QoS parameters of

a Web service are: accessibility (measured by Accessibility Agent 521), response time

(measured by Response Time Agent 522), security (measured by Security Checking

Agent 523), availability, and so forth (see, e.g., page 9, paragraph [0170] and figure 5);

and

the Service Selection Agent 510 communicates with QoS Agents 520 or other

requirement evaluation agents 525, which will use Web services Invoker 540, a

proxy program that invokes Web services for a client requester, to automatically invoke

Web services 530 to check the capability of that Web service or fetch data from Web

Service logging or caching database 535 to get the estimated quality. The service

selection agent tool 510, supported by an optimization algorithm 515, can get the

response time by recording the invocation request time and result return time, for

example. In the meantime, the accessibility can be measured by sending an

invocation request several times during a specified period, for example 24 hours (see,

e.g., page 9, paragraph [0170] and figure 5).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to combine Larkin in view of Moore to include measuring a response time and

selecting a Web service based on the measured response time as taught by Zang in

order to efficiently select a Web service based on the QoS parameters of the Web

service candidates.

Response to Arguments

7.   Applicant's arguments filed 5/21/2008, with respect to claim 1-7, 9-19, 21-31 and

33-36 have been considered but are moot in view of the new ground(s) of rejection.

A.   Summary of Applicant's Arguments

In the remarks, the applicant argues as followings:

1) The Examiner has rejected Claims 25-34 under 35 U.S.C. § 101 as being

directed toward non-statutory subject matter. Applicants have amended independent

Claim 25 to overcome this rejection, by reciting the computer program product thereof to be executable in a computer readable storage medium.

2) Using the single autonomic proxy to select a first Web service to invoke from the group of Web service candidates, wherein the selection is based on the business policy of the first Web service.

3) Sending a message to the first Web service from the autonomic proxy to determine if the first Web service is available.

4) In response to a determination that the first Web service is not available, operating the autonomic proxy to dynamically select a second Web service from the group of Web service candidates based on the business policy.

B.   Response to Arguments:

In response to argument 1), the applicant failed to amend the rejected claims properly as the applicant mentioned in the remark.

In response to argument 2), Larkin teaches a single aggregation and review engine (110 in figure 1) including a candidate selection module (170 in figure 1). Moore teaches the deficiency of Larkin for providing selection based on the business policy of the Web services.

In response to argument 3) and 4), Moore teaches that the Web services search engine (406 in figure 4) performs tasks to confirm the availability of the selected Web server as presented above per the amended claim 1, 13 and 25 (see, e.g., page 7, paragraph [0053]). Therefore the search engine inherently provides a Web server

always available in real-time by measuring responsiveness and latency (equivalent to

applicant's response time) for each Web provider (see, e.g., page 7, paragraph [0055]).

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JEONG S. PARK whose telephone number is (571)270-

1597. The examiner can normally be reached on Monday through Friday 7:00 - 3:30

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. P./
Examiner, Art Unit 2154

August 19, 2008

/Joseph E. Avellino/
Primary Examiner, Art Unit 2146